



# UNITED STATES PATENT AND TRADEMARK OFFICE

*ellu*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,110	11/12/2003	Jeffrey Scott Brown	03-0847	6491

24319 7590 04/27/2007  
LSI LOGIC CORPORATION  
1621 BARBER LANE  
MS: D-106  
MILPITAS, CA 95035

EXAMINER
----------

LAM, DAVID

ART UNIT	PAPER NUMBER
----------	--------------

2827

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/27/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/706,110

Applicant(s)

BROWN ET AL.

Examiner

David Lam

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 8-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/12/03</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group II, claims 1-10 and cancelled claims 11-20 in the reply filed on 3/21/07 is acknowledged.

### ***Claim Objections***

2. Claim 1 objected to because of the following informalities: the phrase "such that a signal produced by self-timing producing circuit and detected by the self-timing signal reading circuit approximates timing behavior of the memory array." in lines 7-9 is unclear, it is unclear what is detected by the self-timing reading circuit. It appears that should be to -- such that a signal produced by self-timing producing circuit is detected by the self-timing signal reading circuit approximates timing behavior of the memory array. --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Maki (6,870,777).

Regarding to claims 1-5, 10, Maki disclose an integrated circuit comprising: a memory array having a first side; a self-timing signal producing circuit (25 and/or 27) located at the first side; a self-timing reading circuit (14) located at the first side; a routing path (see at least Figs. 2-3) connecting the self-timing signal producing circuit to self-timing reading circuit, wherein the routing path extends into the memory array for sufficient length such that a signal produced by self-timing producing circuit is detected by the self-timing signal reading circuit approximates timing behavior of the memory array; wherein the self-timing signal producing circuit is a dummy row decoder (25); wherein the self-timing signal producing circuit is a dummy cell (27); wherein the self-timing signal reading circuit is a dummy sense amplifier (14); wherein the memory array is a segment of a large segmented memory array; wherein the routing path extends into the memory array to a point that is at some intermediate location between the first side and a second side of the memory array, such that a wire delay associated with the routing path approximates a wide delay that would be experienced on a hypothetical routing path extending

Art Unit: 2827

form the first side to the second side. *See at least Figs. 2-6, for example of Col. 4, lines 10-67; Cols. 5-6; Col. 7, lines 1-42, and the related disclosure.*

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maki (6,870,777).

With respect to claims 6-7, Maki discloses all the limitation as applied to claim 5 above and further comprising a second path, wherein the second routing path is routed over a second segment (17). (See at least Fig. 1).

Maki lack an inclusion of wherein the second segment made up of memory cells that are disabled through metal programming. Providing a segment made up of memory cells that are disabled through metal programming would have been known and available in the art to allow late process programming. It would have been obvious to one having ordinary skill in art at the time of the invention to modify Maki accordingly in order to provide memory cells with greater flexibility for later programming process in a semiconductor memory device. *NOTE: for at least Col. 9, line 3-10 of Becker (6,674,661) cited to support known position.*

*Allowable Subject Matter*

5. Claims 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:  
The prior art of record fails to teach all the elements applied to claim 1 and further including the limitation of claim 8.

6. The following is an examiner's statement of reasons for allowance: Claims XX are allowable over the prior art of record because none of the prior art whether taken singularly or in combination, especially when these limitations are considered within the specific combination claimed, to teach:

*Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ashizawa et al. (6,876,587) disclose semiconductor memory device comprising dummy cell array.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lam whose telephone number is 571-272-1782. The examiner can normally be reached on 6:00 – 4:30.

Art Unit: 2827

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**D. Lam**

April 23, 2007



**DAVID LAM**  
**PRIMARY EXAMINER**